documented as yet. One retrospective epidemiologic study, however, failed to show efficacy in young children (aged 2 to 10) or high-risk adults, although the vaccine was protective in other patient groups.

Pneumococcal vaccine is indicated for immunization of patients at high risk of pneumococcal infection, including candidates for influenza vaccine, functionally asplenic patients (such as patients with sickling hemoglobinopathies) and selected other patients at high risk of pneumococcal infections (such as recurrent otitis media or nephrotic syndrome). Patients in closed communities (for example, nursing homes) are at increased risk of pneumococcal infection, and use of the vaccine should be considered in this setting as well. Unfortunately, this and other polysaccharide vaccines are relatively nonimmunogenic and ineffective in children younger than two years of age. The reimmunization interval has not been finally established but will probably be no more often than every five years. Toxicity has been mild and infrequent.

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Small Cell Carcinomas of the Lung

APPROXIMATELY 8 percent to 15 percent of all types of primary lung cancer are of the small cell variety. They are characterized by aggressive clinical behavior and histological features that suggest their derivation from neuroectodermal tissue.

Fewer than 5 percent of these small cell tumors are detected at an asymptomatic stage; they typically grow very rapidly and metastasize early and widely—underlining the importance of establishing a histological diagnosis in patients suspected of having this disease. This can usually be achieved by means of sputum cytology, bronchoscopy, mediastinoscopy or aspiration needle biopsy.

Because of the tumor's rapid growth, results after resection are poor, and this type of malignancy is generally considered to be inoperable at any stage. However, relative success has been reported with nonsurgical therapy. Small cell types of cancer typically respond to combinations of chemotherapy given with or without radiation. Numerous therapy programs have shown good results, with survival of patients having been extended for several months and, in some cases, years. A "best" therapy has not yet been established.

Recently, interest has returned to surgical intervention as adjuvant therapy wherein the primary lesions are removed as part of a chemotherapy program. Because these are active and important areas of clinical investigation, patients should be treated in one of many centers where the results of various approaches can be evaluated.

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Aspiration Pneumonitis

THE ASPIRATION of stomach contents can lead to serious consequences in patients with altered states of consciousness or abnormalities of swallowing or in those undergoing anesthesia.

Substantial quantities of fluid aspirated into the lung can cause acute respiratory decompensation. If the fluid pH is greater than 2.5, is free of food particles and is isotonic, recovery is likely. If it has a pH of less than 2.5, is hypertonic and contains food particles or nonparticulate food substances, a progressive inflammatory reaction may develop. Acid aspirates produce the greatest anatomic and physiological harm.

The causative role of infection remains unclear. If necrotizing pneumonia, lung abscess or empyema develops, then a heavily infected inoculum was probably aspirated. In patients not in hospital, the organisms are usually anaerobes; whereas, facultative anaerobes (Gram-negative rods) and aerobes are predominant in patients in hospital. A delayed infection may develop in some patients and is probably due to contamination of the chemically damaged lung by artificial airways, suction and mechanical ventilatory apparatus. *Pseudomonas aeruginosa* and *Staphylococcus aureus* are frequent isolates in these circumstances. There is no characteristic radiographic pattern in this disease. Severe hypoxemia is the predominant gas-exchange alteration.

In a surgical patient the preoperative administration of 400 to 600 mg of cimetidine has been